

WHAT IS CLAIMED IS:

1. A stereoscopic video signal generation circuit for supplying a stereoscopic video signal to a three-dimensional display, wherein the three-dimensional display forms a stereoscopic image by taking advantage of binocular disparity, the stereoscopic video signal generation circuit comprising:

an information retrieving means for retrieving video information on the stereoscopic image and display information on the three-dimensional display; and

an offset setting means for offsetting a left-eye image and a right-eye image relative to each other according to the video information and the display information to adjust a stereoscopic depth of the image displayed.

2. A stereoscopic video signal generation circuit according to claim 1, wherein the information retrieving means retrieves as the video information at least applicable screen size information on a screen size suited for reproducing the stereoscopic image or applicable viewing distance information on a distance from an observer to a screen suited for the observer to see the image as it is reproduced, the applicable screen size information and the applicable viewing distance information being related to the stereoscopic image, and

the information retrieving means also retrieves as the display information at least screen size information on a

screen size of the three-dimensional display or viewing distance information on a distance from the observer to the screen of the three-dimensional display,

wherein the offset setting means offsets the left-eye image and the right-eye image relative to each other according to one or more of the applicable screen size information, the applicable viewing distance information, the screen size information and the viewing distance information to adjust the stereoscopic depth of the image displayed.

3. A stereoscopic video signal generation circuit according to claim 2, wherein the information retrieving means retrieves as the video information camera distance information on a distance between an optical axis of a left-eye camera and an optical axis of a right-eye camera and crosspoint information on a distance from the observer to a crosspoint of the left-eye camera optical axis and the right-eye camera optical axis, the camera distance information and the crosspoint information being related to the stereoscopic image,

wherein the offset setting means offsets the left-eye image and the right-eye image relative to each other according to the camera distance information and the crosspoint information to adjust the stereoscopic depth of the image displayed.

4. A stereoscopic video signal generation circuit

according to any one of claims 1 to 3, wherein the information retrieving means retrieves information entered about the stereoscopic depth and the offset setting means offsets the left-eye image and the right-eye image relative to each other according to the information entered to adjust the stereoscopic depth of the image displayed.

5. A stereoscopic video signal generation circuit according to any one of claims 1 to 4, further comprising:

a left-eye image frame memory for storing the left-eye image and a right-eye image frame memory for storing the right-eye image;

wherein the offset setting means has a timing control means for controlling a timing of reading video data from the left-eye image frame memory and/or the right-eye image frame memory, and the timing control means advances or delays the timing of reading the video data from one of the left-eye image frame memory and the right-eye image frame memory with respect to the timing of reading the video data from the other frame memory to offset the left-eye image and the right-eye image relative to each other.

6. A stereoscopic video signal generation circuit according to claim 5, further comprising:

a stereoscopic image frame memory for storing the stereoscopic image; and

a signal selection means for selecting between video

data read out from the left-eye image frame memory and video data read out from the right-eye image frame memory and feeding the selected data into the stereoscopic image frame memory.

7. A stereoscopic video signal generation circuit according to any one of claims 1 to 4, wherein the left-eye image and the right-eye image are offset relative to each other by advancing or delaying a horizontal phase between the left-eye image and the right-eye image.

8. A stereoscopic video signal generation circuit according to any one of claims 1 to 7, wherein, when the left-eye image and the right-eye image are offset, in left and/or right end blanked-out areas of the screen where information of the left-eye image and/or the right-eye image is not displayed, left or right edge portion of the left-eye image and/or the right-eye image near the blanked-out areas is displayed magnified horizontally and vertically.

9. A three-dimensional display for forming a stereoscopic image by taking advantage of binocular disparity, the three-dimensional display comprising: a stereoscopic video signal generation circuit for combining a left-eye image and a right-eye image to generate a stereoscopic video signal, a display for displaying the stereoscopic image and a driver circuit for driving the display; wherein the stereoscopic video signal generation

circuit has

an information retrieving means for retrieving video information on the stereoscopic image and display information on a display area of the display, and

an offset setting means for offsetting the left-eye image and the right-eye image relative to each other according to the video information and the display information to adjust a stereoscopic depth of the image displayed on the display;

wherein the driver circuit forms the stereoscopic image on the display according to the stereoscopic video signal output from the stereoscopic video signal generation circuit.

10. A three-dimensional display according to claim 9, further comprising: a memory means for storing screen size information as information on a display area of the display;

wherein the information retrieving means retrieves the screen size information from the memory means.

11. A three-dimensional display according to claim 9 or 10, wherein the information retrieving means retrieves as the video information at least applicable screen size information on a screen size suited for reproducing the stereoscopic image or applicable viewing distance information on a distance from an observer to a screen suited for the observer to see the image as it is reproduced, the applicable screen size information and the applicable viewing distance

information being related to the stereoscopic image, and

the information retrieving means also retrieves as the display information at least screen size information on a screen size of the three-dimensional display or viewing distance information on a distance from the observer to the screen of the three-dimensional display,

wherein the offset setting means offsets the left-eye image and the right-eye image relative to each other according to one or more of the applicable screen size information, the applicable viewing distance information, the screen size information and the viewing distance information to adjust the stereoscopic depth of the image displayed.

12. A three-dimensional display according to claim 9 or 10, wherein the information retrieving means retrieves as the video information camera distance information on a distance between an optical axis of a left-eye camera and an optical axis of a right-eye camera and crosspoint information on a distance from the observer to a crosspoint of the left-eye camera optical axis and the right-eye camera optical axis, the camera distance information and the crosspoint information being related to the stereoscopic image,

wherein the offset setting means offsets the left-eye image and the right-eye image relative to each other according to the camera distance information and the crosspoint information to adjust the stereoscopic depth of

the image displayed on the display.

13. A three-dimensional display according to claim 9 or 12, further comprising: an input means for the observer to input information on the stereoscopic depth;

wherein the offset setting means offsets the left-eye image and the right-eye image relative to each other according to the information entered into the input means to adjust the stereoscopic depth of the image displayed on the display.

14. A three-dimensional display according to any one of claims 9 to 13, further comprising:

a left-eye image frame memory for storing the left-eye image and a right-eye image frame memory for storing the right-eye image;

wherein the offset setting means has a timing control means for controlling a timing of reading video data from the left-eye image frame memory and/or the right-eye image frame memory, and the timing control means advances or delays the timing of reading the video data from one of the left-eye image frame memory and the right-eye image frame memory with respect to the timing of reading the video data from the other frame memory to offset the left-eye image and the right-eye image relative to each other.

15. A three-dimensional display according to any one of claims 9 to 14, further comprising:

a stereoscopic image frame memory for storing the stereoscopic image; and

a signal selection means for selecting between left-eye image data read out from the left-eye image frame memory and right-eye image data read out from the right-eye image frame memory and feeding the selected data into the stereoscopic image frame memory.

16. A three-dimensional display according to any one of claims 9 to 15, wherein the left-eye image and the right-eye image are offset relative to each other by advancing or delaying a horizontal phase between the left-eye image and the right-eye image.

17. A three-dimensional display according to any one of claims 9 to 16, wherein, when the left-eye image and the right-eye image are offset, in left and/or right end blanked-out areas of the screen where information of the left-eye image and/or the right-eye image is not displayed, left or right edge portion of the left-eye image and/or the right-eye image near the blanked-out portions is displayed magnified horizontally and vertically.